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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/748,657	LEE, KYOUNG-JAE	
	Examiner	Art Unit	
	STEPHEN R. KOZIOL	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 8-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

1. Amendments and Remarks filed 12 June 2009 have been entered and considered, but are not fully persuasive. Independent claims 1, 8 and 9 have been amended without introducing new subject matter. Claims 1-14 remain. Applicants' amendments have necessitated the new grounds of rejection set forth herein; accordingly, this action is made final.

Response to Arguments

2. *Summary of Applicants' Remarks*

Applicant's amendments have overcome the following rejections:

- Claims 1-13, previously rejected under 35 USC § 103(a) as anticipated by Lee at al. (USPN 6,151,426) in view of Sheng (USPN 6,753,982).
- Claim 8 previously rejected under 35 USC § 101. Claim 8 is now tied to a particular machine in the form of a "scanner."

Response to Applicants' Remarks:

Regarding amended independent claims 1, 8 and 9, Applicant's amendments have necessitated the new grounds for rejection set forth hereinbelow. Specifically, Adachi (USPN 4,682,241) is relied upon to teach the newly added limitations to the independent claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-3, 5, 8-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. U.S. Patent No. 6,151,426.in view of Sheng et al. U.S. Patent No. 6,753,982 further in view of Adachi (U.S. Patent No. 4,682,241).

Regarding claim 1, Lee discloses a method of scanning a document to generate image data of the document using a scanner (*Abstract, figs. 3A-3B),* the method comprising:

i. performing a pre-scanning operation of the scanner at a first predetermined resolution and speed according to a scan command until a current scanning area is located in a main-scan area *(col. 3, lines. 24-40 "windows having tools for adjusting various aspects of the selected area," also, col. 4, lines. 38-60, where Lee's pre-scan is a "low quality scan" relative to the main scan. A "low-quality" scan as disclosed by Lee, necessitates a first predetermined speed and resolution relative to Lee's disclosed main scan)*; and

ii. performing a main-scanning operation of the scanner, comprising resuming a scanning operation of the scanner at a second predetermined resolution and speed, until the current scanning area is beyond the main-scan area, after the current scanning area has been located in the main-scan area *(see discussion in claim 1 i. above)*.

Lee is presently interpreted as being silent on the limitations of stopping the pre-scanning operation when the current scanning area is located in the main-scan area and that the performing the main-scanning operation is in response to the stopping the pre-scanning operation . However, Sheng teaches a similar image scanning system that utilizes a "pre-scan" operation (via edge detection) to determine the size of the document to be scanned in a main-scanning operation. When Sheng's edge detection pre-scanning operation is complete, the main-scan of the document is automatically triggered, without user intervention. Insofar as Sheng's edge detection pre-scan scan stops when the size of the document to be scanned is determined, the edge detection pre-scan can be said to stop when the current scanning are is located in the main-scan area, as required by the instant independent claims.

Specifically, Sheng is interpreted to teach the limitations of stopping the pre-scanning operation when the current scanning area is located in the main-scan area and that the performing the main-scanning operation is in response to the stopping the pre-scanning operation *(see Sheng column 2 line 45 – column 3 line 16, as illustrated in Figs. 1a and 1b where Sheng's edge detection pre-scan determines the size of the document being scanned and triggers the main-scan operation).*

Thus Lee has set forth the base image scanning device and Sheng has disclosed an improvement in the field of the base device suitable for use thereon. The benefits of stopping the pre-scanning operation to trigger a main-scan function as taught by Sheng would have been readily apparent to the skilled artisan. It would have been obvious to the person having ordinary skill and creativity in the image processing arts at the time of the instant application to combine the teaching of Lee and Sheng to produce a document scanning method further comprising

stopping the pre-scanning operation when the current scanning area is located in the main-scan to achieve the benefits of avoiding unnecessary scanning operations.

Both Lee and Sheng are interpreted as being silent on the newly added limitation of performing the pre-scanning operation and performing the main-scanning operation comprise determining whether white data exists for each line of a document to be scanned and counting a number of white lines of the white data. However, Adachi teaches a similar system for determining successively occurring pieces of information for use, e.g., in a facsimile system. One aspect of Adachi's system comprises white data detection and more specifically, white line detection and counting (see Adachi's Scanner Interface System, described in column 8 line 65 through column 9 line 15, where the counting of white lines is described). The benefits of counting of white lines as taught by Adachi would have been readily apparent to the skilled artisan. It would have been obvious to the person having ordinary skill and creativity in the image processing arts at the time of the instant application to combine the teachings of Lee, Sheng and Adachi to produce a document scanning method further comprising counting of white lines to achieve the benefits of more accurately determining the size of the object being scanned.

Regarding claim 2, Lee further discloses a method wherein said performing a pre-scanning operation comprises sensing a position of a starting portion of the main-scan area in which a document is positioned *(col. 2, lines 38-42 where Lee's "initial region of interest" is the starting portion of the main-scan area).*

Regarding claim 3, Lee discloses a method wherein said performing a main-scanning operation comprises scanning a document sensed during the pre-scanning operation to generate

image data of the document *(col. 4, lines 38-65, where the actual sensed document is scanned, thereby generating image data of the document).*

Regarding claim 5, Lee discloses a method further comprising, if the number of documents input is one, ending scanning of the document after said performing a main-scanning operation ends *(col. 3, lines. 24-40, where Lee ends the scanning operation after end of the first document is reached).*

Regarding claim 8, Lee discloses a method of scanning documents, comprising:

i. placing one or more documents to be scanned within a physical scan area *(fig. 1, item 114, col. 3, lines 24-40 as well as Fig. 2 items 202, 210, 212, 214 etc. which collectively show a pre-scan of one or more documents having been placed on a physical scan area);*

ii. performing a pre-scanning operation of the scanner until a beginning of one of the documents is sensed *(col. 2, lines 38-42where Lee's "initial region of interest" is the beginning of one of the first sensed document);*

iii. performing a main-scanning operation of the scanner, comprising resuming a scanning operation until an end of the one of the documents is sensed *(Lee col. 3, ln. 24-40, where the main scan operation is disclosed);* and

iv. repeating said performing a pre-scanning operation and said performing a main-scanning operation until a bottom of the physical scan area is reached, thereby scanning the physical scan area once *(Lee col. 3, ln. 24-40, and col. 4, ln. 38-65 where the main-scan is performed and the end of the document is captured by reaching the end of the physical scan area).*

Lee is presently interpreted as being silent on the limitations of stopping the pre-scanning operation when the current scanning area is located in the main-scan area and that the performing the main-scanning operation is in response to the stopping the pre-scanning operation . However, Sheng teaches a similar image scanning system that utilizes a "pre-scan" operation (via edge detection) to determine the size of the document to be scanned in a main-scanning operation. When Sheng's edge detection pre-scanning operation is complete, the main-scan of the document is automatically triggered, without user intervention. Insofar as Sheng's edge detection pre-scan scan stops when the size of the document to be scanned is determined, the edge detection pre-scan can be said to stop when the current scanning are is located in the main-scan area, as required by the instant independent claims.

Specifically, Sheng is interpreted to teach the limitations of stopping the pre-scanning operation when the current scanning area is located in the main-scan area and that the performing the main-scanning operation is in response to the stopping the pre-scanning operation *(see Sheng column 2 line 45 – column 3 line 16, as illustrated in Figs. 1a and 1b where Sheng's edge detection pre-scan determined the size of the document being scanned and triggers the main-scan operation).*

Thus Lee has set forth the base image scanning device and Sheng has disclosed an improvement in the field of the base device suitable for use thereon. The benefits of stopping the pre-scanning operation to trigger a main-scan function as taught by Sheng would have been readily apparent to the skilled artisan. It would have been obvious to the person having ordinary skill and creativity in the image processing arts at the time of the instant application to combine the teaching of Lee and Sheng to produce a document scanning method further comprising

stopping the pre-scanning operation when the current scanning area is located in the main-scan to achieve the benefits of avoiding unnecessary scanning operations.

Both Lee and Sheng are interpreted as being silent on the newly added limitation of performing the pre-scanning operation and performing the main-scanning operation comprise determining whether white data exists for each line of a document to be scanned and counting a number of white lines of the white data. However, Adachi teaches a similar system for determining successively occurring pieces of information for use, e.g., in a facsimile system. One aspect of Adachi's system comprises white data detection and more specifically, white line detection and counting (see Adachi's Scanner Interface System, described in column 8 line 65 through column 9 line 15, where the counting of white lines is described). The benefits of counting of white lines as taught by Adachi would have been readily apparent to the skilled artisan. It would have been obvious to the person having ordinary skill and creativity in the image processing arts at the time of the instant application to combine the teachings of Lee, Sheng and Adachi to produce a document scanning method further comprising counting of white lines to achieve the benefits of more accurately determining the size of the object being scanned.

Regarding claim 9, Lee discloses a scanner, comprising:

i. one or more documents placed to be scanner within a physical scan area; a scanner which performs a pre-scanning unit performing a pre-scanning operation at a first predetermined resolution and speed by moving in a predetermined direction until a current scanning area is located in a main-scan area *(fig 1, item 114, also, col. 3, ln. 24-40, and col. 4, ln. 38-65);* and

ii. a main-scanning unit performing a main-scanning operation at a second predetermined resolution and speed, until the current scanning area is beyond the main-scan area, after the current scanning area has been located in the main-scan area *(fig 1, item 114, also, col. 3, ln. 24-40).*

Lee is presently interpreted as being silent on the limitations of stopping the pre-scanning operation when the current scanning area is located in the main-scan area and that the performing the main-scanning operation is in response to the stopping the pre-scanning operation . However, Sheng teaches a similar image scanning system that utilizes a "pre-scan" operation (via edge detection) to determine the size of the document to be scanned in a main-scanning operation. When Sheng's edge detection pre-scanning operation is complete, the main-scan of the document is automatically triggered, without user intervention. Insofar as Sheng's edge detection pre-scan scan stops when the size of the document to be scanned is determined, the edge detection pre-scan can be said to stop when the current scanning are is located in the main-scan area, as required by the instant independent claims.

Specifically, Sheng is interpreted to teach the limitations of stopping the pre-scanning operation when the current scanning area is located in the main-scan area and that the performing the main-scanning operation is in response to the stopping the pre-scanning operation *(see Sheng column 2 line 45 – column 3 line 16, as illustrated in Figs. 1a and 1b where Sheng's edge detection pre-scan determined the size of the document being scanned and triggers the main-scan operation).*

Thus Lee has set forth the base image scanning device and Sheng has disclosed an improvement in the field of the base device suitable for use thereon. The benefits of stopping the

pre-scanning operation to trigger a main-scan function as taught by Sheng would have been readily apparent to the skilled artisan. It would have been obvious to the person having ordinary skill and creativity in the image processing arts at the time of the instant application to combine the teaching of Lee and Sheng to produce a document scanning method further comprising stopping the pre-scanning operation when the current scanning area is located in the main-scan to achieve the benefits of avoiding unnecessary scanning operations.

Both Lee and Sheng are interpreted as being silent on the newly added limitation of performing the pre-scanning operation and performing the main-scanning operation comprise determining whether white data exists for each line of a document to be scanned and counting a number of white lines of the white data. However, Adachi teaches a similar system for determining successively occurring pieces of information for use, e.g., in a facsimile system. One aspect of Adachi's system comprises white data detection and more specifically, white line detection and counting (see Adachi's Scanner Interface System, described in column 8 line 65 through column 9 line 15, where the counting of white lines is described). The benefits of counting of white lines as taught by Adachi would have been readily apparent to the skilled artisan. It would have been obvious to the person having ordinary skill and creativity in the image processing arts at the time of the instant application to combine the teachings of Lee, Sheng and Adachi to produce a document scanning method further comprising counting of white lines to achieve the benefits of more accurately determining the size of the object being scanned.

Regarding claim 10, Lee discloses a scanner wherein the first predetermined resolution and speed are set by a user or set depending on characteristics of the scanner *(col. 2, ln. 27-32, also, col. 3, ln. 24-40).*

Regarding claim 11, Lee discloses a scanner wherein the speed of the pre-scanning operation is greater than the speed of the main-scanning operation *(col. 4, ln. 38-60, where Lee's pre-scan is a "low quality scan" relative to the main scan. A "low-quality" scan as disclosed by Lee, is necessarily slower than Lee's disclosed main scan).*

Regarding claim 12, Lee discloses a scanner wherein a size of a document to be scanned is variable *(col. 2, ln. 32-37 and Fig. 2 items 212 and 210 which appear to be substantially the same size as a business card),* and as such the size of the document to be scanned is the same size as a business card.

Regarding claim 14, Sheng further teaches the method of claim 2 wherein the sensing comprises automatically sensing *(see Sheng column 2 line 45 – column 3 line 16, as illustrated in Figs. 1a and 1b where Sheng's edge detection pre-scan automatically (without user intervention) determines the size of the document being scanned by sensing the edges (starting positions) of the document).*

5. Claims 4, 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. U.S. Patent no. 6,151,426 in view of Sheng et al. U.S. Patent No. 6,753,982, in view of Adachi (U.S. Patent No. 4,682,241), further in view of Kao U.S. Patent No. 6,453,080 B1.

Regarding claim 4, Lee, Sheng and Adachi are silent on a method further comprising inputting a number of documents for which image data are to be generated. However, Kao

discloses a document scanning method and apparatus where image data are generated for multiple documents *(see Kao col. 7, ln. 22-30, "the efficiency of the inventive method will be more remarkable especially when the scanner is scanning multiple documents")*. Thus Lee and Sheng have set forth the base image scanning device (as indicated re claim 1 supra) and Kao has disclosed an improvement in the field of the base device suitable for use thereon. The salient benefits of processing multiple documents for which data are to be generated would have been readily apparent to a skilled artisan. Therefore, the combined teaching of Lee, Sheng and Kao would have rendered obvious utilization of a document scanning method further comprising inputting a number of documents for which image data are to be generated.

Regarding claim 6, Lee, Sheng and Adachi are silent on a method further comprising, if the number of documents input is two or more, sensing a starting portion of a subsequent document after said performing a main-scanning operation ends by repeating said performing a pre-scanning operation. Kao discloses a method of sensing a starting *portion (Kao, claim 1 a) "A method for real-time auto-cropping a scanned image comprising... sequentially reading each partial image block from a scanner until a first meaningful image region is found")* of a subsequent document after said performing a main-scanning operation ends by repeating said performing a pre-scanning operation where multiple documents are to be scanned (*see Kao col. 7, ln. 22-30, "the efficiency of the inventive method will be more remarkable especially when the scanner is scanning multiple documents")*. Therefore, the combined teaching of Lee, Sheng and Kao would have rendered obvious utilization sensing a starting portion of a subsequent document after a main-scanning operation ends by repeating a pre-scanning operation where two or more documents are to be scanned.

Regarding claim 13, Kao further teaches the method of claim 1 wherein the performing of the pre-scanning operation comprises performing the pre-scanning operation without displaying a scanned area to a user *(Kao's scanning system is real-time and automatic (Abstract col. 2 line 50 thru col. 3 line 11), thus no user input is required and as such no display of a scanned area to a user is required).*

Conclusion

6. **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Koziol whose telephone number is (571) 270-1844. The examiner can normally be reached on Monday - Friday 9:00 - 5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached at (571) 272-7413 . Customer Service can be reached at (571) 272-2600. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/srk/
30 September 2009

/CHARLES KIM/
Primary Examiner, Art Unit 2624